nFX Technology Whitepaper

Introduction
Founded in 1993, nFX is a software company which designs and licenses innovative graphics technology that speeds up and simplifies the creation of graphics and animations used in a variety of applications, such as video games. This graphics technology originated at the Massachusetts Institute of Technology (M.I.T.). nFX is developing and commercializing the technology into graphics software products.

nFX Technology
nFX Technology allows developers to improve their productivity in creating graphics and animations. The nFX tools "learn" from a few simple drawings and can then generate new and complex images. Once a design team creates several "reference" drawings, the drawings are used by the software to create an "Image Network," see Figure 1.
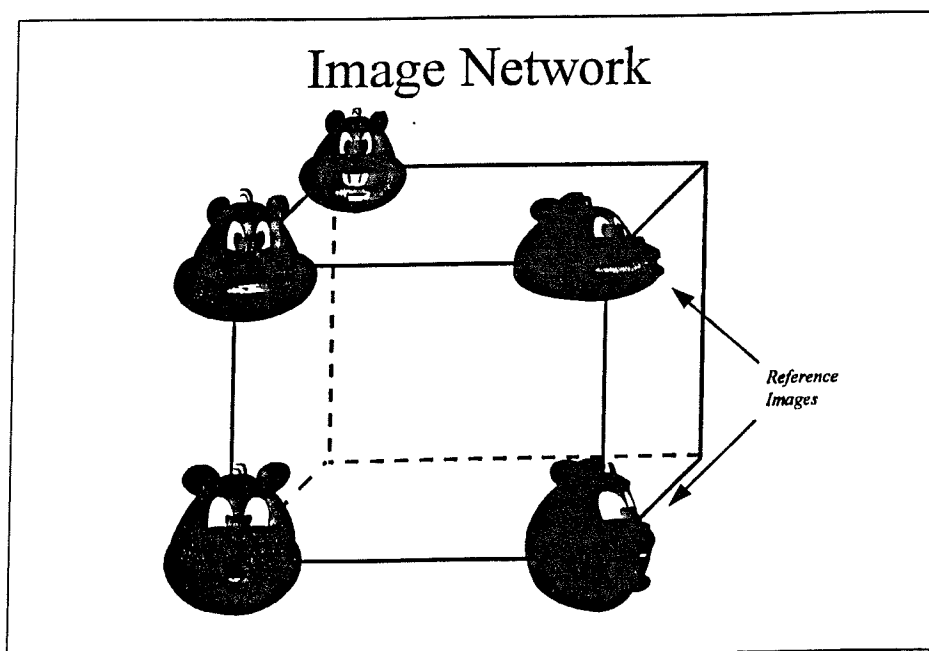

Figure 1

An Image Network is used to create new images or animations from the original reference drawings. For instance, by entering only a few reference images of a character, the technology can generate thousands of new images of that character.

Reference images are vector-based so an Image Network is extremely small when compared to bit-mapped images.

nFX Products

nFX Designer is the application which allows developers to create an Image Network. This is done in two steps; one is to create and/or import the reference images, the second is to define the controls for the Image Network.

Reference drawings can be created with nFX Designer or imported from many popular image creation packages, such as Adobe Illustrator and CorelDraw.

As developers create an Image Network, they can specify which parts of the image can be manipulated and "slider" controls are created for each.

New images can be generated quickly and easily by moving sliders. Animations can be created by "linking" sliders in a sequence. For instance, a "happy-sad" slider control can be used to make a character move between a smile and a frown.

nFX Viewer is a highly optimized, portable playback engine for Image Networks. It allows users to interactively create images and animations.

Currently, software animations are developed frame by frame and are of fixed sequence. Software is interactive, but its interactivity is limited by the preprogrammed fixed sequences defined by the developers. With nFX Viewer on the target platform, software can offer "truly" interactive sequences. The user has a virtually unlimited number of animated responses, depending on his input or choices.

nFX Viewer links a user to the Image Network and allows him to interactively select his path through the Image Network "space." Developers define the parameters, i.e. which input devices are used and how the inputs affect the path that is taken. So a user's inputs create a path that is unique to their choices at that time. Input devices include mice, joysticks, keyboards, and other devices, see Figure 2.
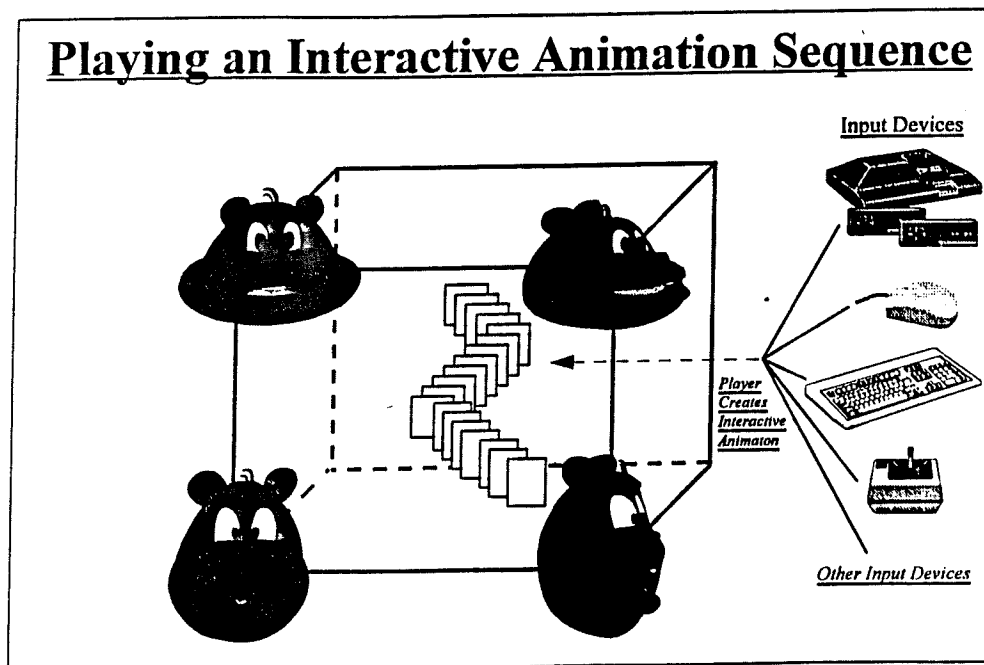

Figure 2

Benefits of nFX Products

Easy to use
- nFX Designer is easy to learn and works with existing graphics application.
- nFX Viewer makes it easy to create custom drawings and animations, even with no drawing skills.

Minimizes memory
- nFX Designer minimizes memory and disk space both on the development system and on the playback platform because images are not bitmapped.

High quality output
- Images can be scaled up to any size without losing image quality.

Interactivity
- With nFX products, you can develop content that people will want to use again and again because each time they will interactively create new sequences, essentially creating new content for themselves.